40E ELECTRIC FAN HEATER

PRODUCT MANUAL

IMPORTANT

READ AND UNDERSTAND THIS MANUAL BEFORE ASSEMBLING, STARTING OR SERVICING THE HEATER.
IMPROPER USE OF HEATER CAN CAUSE SERIOUS INJURY.
KEEP THIS MANUAL FOR FUTURE REFERENCE.

FOR PROFESSIONAL USE ONLY

OCTOBER 2014 REVISION

IMPORTANT INSTRUCTIONS
READ ALL INSTRUCTIONS BEFORE USING THIS HEATER

1. This heater is hot when in use. To avoid burns, do not let bare skin touch hot surfaces. Use handle when moving this heater. Keep combustible materials at least 6 feet (2 meter) from the front of the heater and keep them away from sides and rear

2. Extreme caution is necessary when the heater is used near children or invalids and whenever the heater is left unattended

3. Always unplug the heater when not in use

4. Do not operate any heater with a damaged cord or plug or after the heater malfunctions, has been dropped or damaged in any manner. Return heater to authorized service facility for examination, electrical or mechanical adjustment or repair

5. Do not expose to rain, water spray or dripping water

6. This heater is not intended for use in bathrooms, laundry areas and similar indoor locations. Never locate the heater where it may fall into a bathtub or other liquid container

7. Do not run cord under carpeting. Do not cover cord with throw rugs, runners, or the like. Arrange cord away from traffic area and where it will not be tripped over

8. To disconnect heater, turn controls to off, then remove plug from outlet

9. Connect to properly grounded outlets only

10. Do not insert or allow foreign objects to enter any ventilation or exhaust opening as this may cause an electric shock or fire, or damage the heater

11. To prevent a possible fire, do not block air intakes or exhaust in any manner. Do not use on soft surfaces, where openings may become blocked

12. A heater has hot and arcing or sparking parts inside. Do not use in areas where gasoline, paint or flammable liquids are used or stored

13. Do not point to flammable materials

14. Use heater only as described in this manual. Any other use not recommended by the manufacturer may cause fire, electric shock or injury to persons

15. Always plug heaters directly into a wall outlet/receptacle. Never use with an extension cord or relocatable power tap (outlet/power strip)

16. SAVE THESE INSTRUCTIONS

GENERAL INFORMATION FOR USER

Patron electric heaters are designed for professional use.

The heat is generated in sealed heating elements inside the inner mantle of the heater. Heated air is then distributed by an electric motor driven fan blowing air through the heater.

Although effectively cooled by the fan, the heating elements have high surface temperatures. That is why combustible materials must be kept at a safe distance from the heater and care must be taken that no combustible particles enter the heater with the air sucked in by the fan.

Keep the heater clean of dust at any time. Dust may cause fire when heated.

Make sure that the fan blades may rotate unobstructed at all times.

Do not block air intakes or exhaust in any manner.

LIMITED WARRANTY

PATRON heater products are professional construction heaters. They are warranted for twenty-four (24) months from original date of purchase. The warranty does not cover products modified outside our factory, damage or failure caused by acts of God, abuse, misuse, use on other than rated voltage, abnormal usage, faulty or improper installation, failure to provide recommended maintenance or any repairs other than those provided by an authorized PATRON service.

THERE ARE NO OBLIGATIONS OR LIABILITIES ON THE PART OF PATRON PRODUCTS INC. FOR CONSEQUENTIAL DAMAGES ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THE PRODUCT OR OTHER INDIRECT DAMAGES WITH RESPECT TO LOSS OF PROPERTY, REVENUES, OR PROFIT, OR COST OF REMOVAL, INSTALLATION OR REINSTALLATION.

THIS WARRANTY CONSTITUTES THE EXCLUSIVE REMEDY OF ANY PURCHASER OF EQUIPMENT SOLD BY THE MANUFACTURER AND ITS DEALERS AND DISTRIBUTORS AND IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED.

During the warranty period, Patron Products will, at its sole option, repair or replace any defective parts or products returned, freight prepaid, to Patron Products or such other location as Patron Products may designate.

Returned products must be packaged carefully, and Patron Products shall not be responsible for damage in transit. When returning parts, the owner must provide the model number of the product and the nature of difficulty being experienced. This warranty does not oblige Patron Products to bear the cost of labour in replacing any assembly, unit or component or part thereof, nor does the company assume any liability for secondary charges, expenses of removal or installing, freight or damages. There will be charges rendered for product repair after our warranty period has expired. Proof of purchase, including date, must accompany request for in-warranty service.

OPERATION

REVIEW AND UNDERSTAND ALL WARNINGS IN THIS MANUAL. THEY ARE ESSENTIAL FOR SAFE USE OF THE HEATER.

FOLLOW ALL LOCAL CODES

TO START HEATING:

1. Place the heater on a stable and level surface. Make sure that no explosive or combustible fumes or dust are present.

MINIMUM CLEARANCES FROM COMBUSTABLE MATERIALS	
OUTLET = 6 feet	SIDES = 1 foot
TOP = 2 feet	REAR = 2 feet
FLOOR = COMBUSTABLE	

2. Connect power cord of heater into 480 V / 60 Hz three phase power source. THE POWER SOURCE MUST BE EQUIPPED WITH A CIRCUIT BREAKER! See paragraph “Technical specifications” in this manual for correct amperage rating. NOTE: Check your heater to make sure it is wired for either one or three phase use.
3. Set the room thermostat to a temperature above the ambient room temperature by turning the knob. Note! The heater will start heating only if the thermostat “calls for heat” meaning that it is set to higher than prevailing ambient temperature

Select the power range by means of the switches marked S1, S2 and S3.

S1 “ON” = Partial output 16 kW (51,200 BU/h)

S1 & S2“ON” = Partial output 32 kW (102,400 BU/h)

S1 & S2 & S3 “ON” = Full output 40 kW (136,500 BU/h)

THE HEATER WILL NOW OPERATE AUTOMATICALLY, CONTROLLED BY THE THERMOSTATS.

TO STOP HEATING

1. Turn the main switch into position “0” standby
2. Let the fan run until it stops automatically - do not disconnect heater from power source!
3. Disconnect the power supply plug

NOTE!
THE HEATER IS EQUIPPED WITH AN OVERHEAT LIMIT SWITCH WHICH MAY CAUSE THE HEATER TO STOP. CHECK AND REMOVE THE CAUSE FOR OVERHEATING BEFORE RESTARTING.

MAINTENANCE

WARNING!

NEVER SERVICE THE HEATER WHILE IT IS PLUGGED IN, RUNNING OR HOT. SEVERE BODILY INJURE OR ELECTRIC SHOCK MAY OCCUR.

ONLY QUALIFIED PERSONS ARE ALLOWED TO OPEN HEATER FOR SERVICE. NO USER-SERVICE-ABLE PARTS INSIDE.

- Keep heater clean. Use pressurized air to blow fan blades clean. Note! Use moderate pressure to avoid damage to fan blades
- Inspect heater before and after each use
- The bearings of the fan motor must be lubricated according to instructions on the motor

STORAGE

When not in use, the heater must be disconnected from power source, cleaned of dust and stored in a dry place.

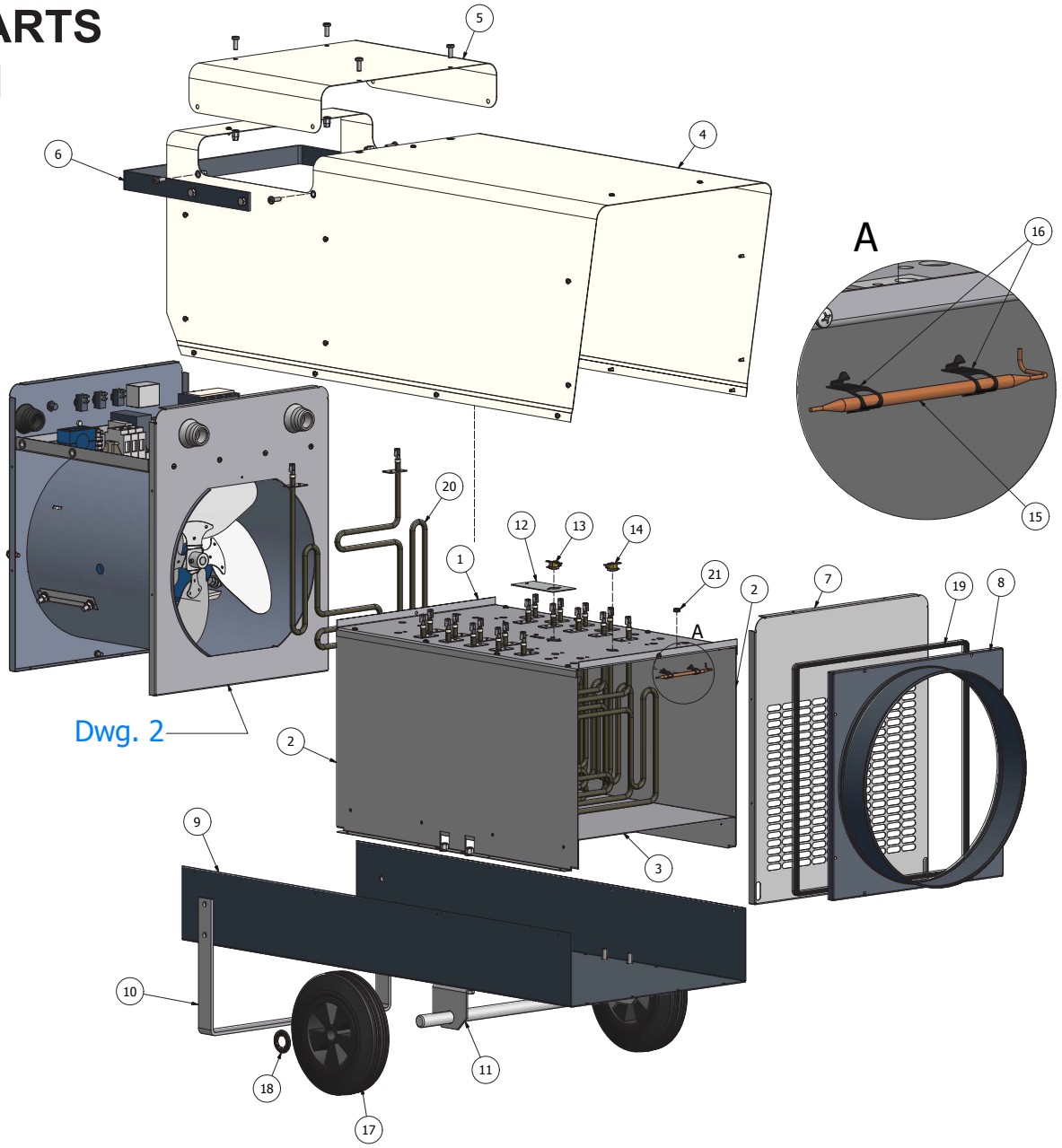
TECHNICAL SPECIFICATIONS

HEAT OUTPUT (3 STAGE SELECTOR)	BTU/Hr	51,200 / 102,400 / 136,500
AIRFLOW	CFM	1,765
ELECTRIC CONNECTION	V ac / Hz	480 / 60 three phase
AMPERAGE DRAW (3 Phase)	A	Partial: 20 Partial: 40 Full: 50
AMBIENT THERMOSTAT	temp. range	32 - 100 °F (0 - 40 °C)
LENGTH	inches	46
WIDTH	inches	20
HEIGHT	inches	25
WEIGHT	lbs	125

SPARE PARTS DIAGRAM

PATRON 40E

Drawing 1



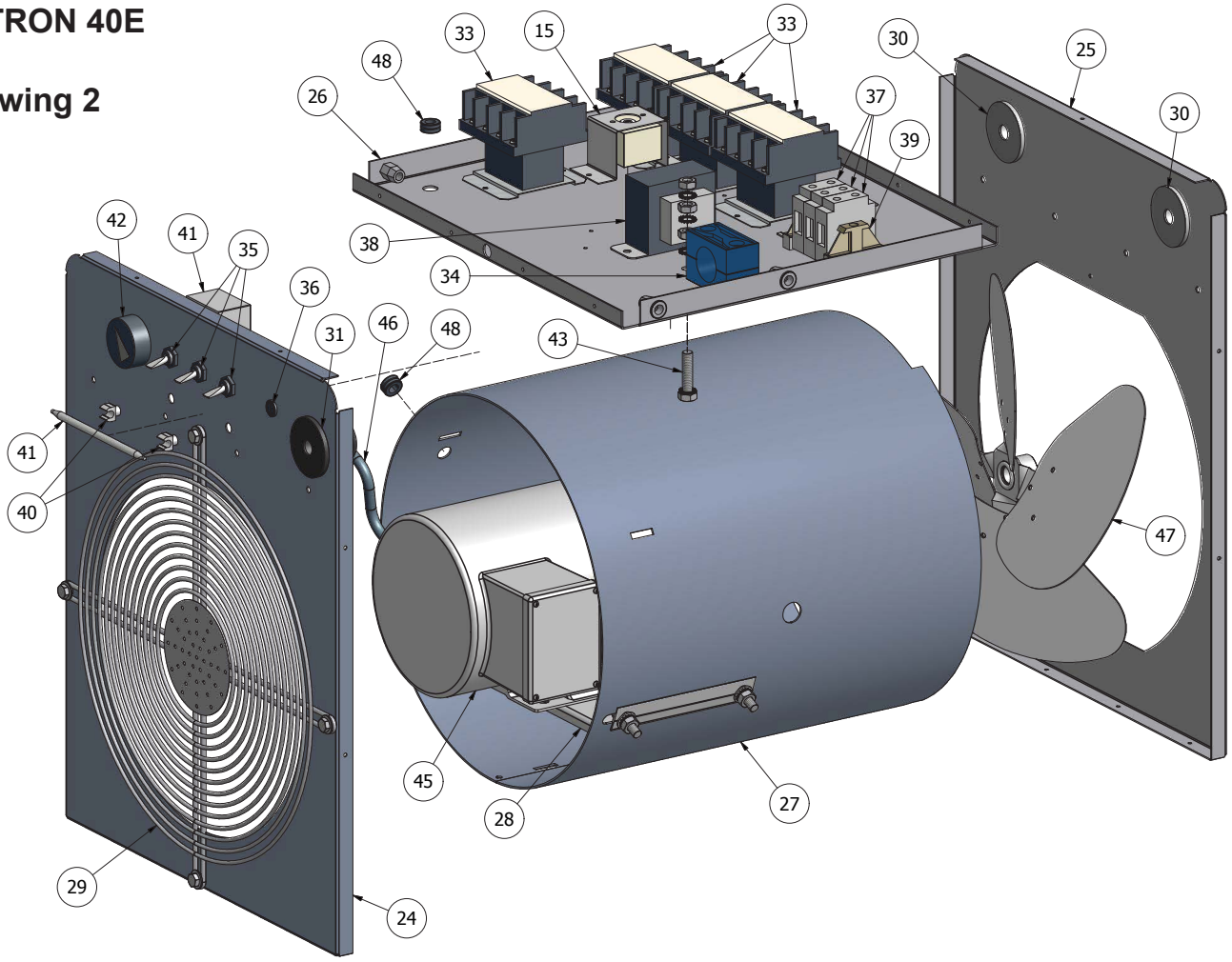
1	404103	Heat Exchange Chamber
2	404103	Heat Exchange Chamber
3	404103	Heat Exchange Chamber
4	404102	Hood (Incl. Connection Hatch)
5	404104	Connection Hatch Only
6	404101	Handle
7	404106	Front Panel
8	404108	Duct Adapter
9	404107	Bottom Frame
10	404111	Support Leg
11	404105	Wheel Shaft

12	404112	Fan Thermostat Plate
13	21200	Overheat Limit Switch, Inner
14	21100	Cooldown Thermostat
15	20550	Overheat Limit Switch, Air Outlet
16	82770	Metal Bracket for 20550 Switch
17	74200	Wheel
18	74600	Locking Washer
19	404113	Gasket, Duct Adapter
20	42410	Heating Element, 15 per heater
21	36809	Guard Ring

SPARE PARTS DIAGRAM

PATRON 40E

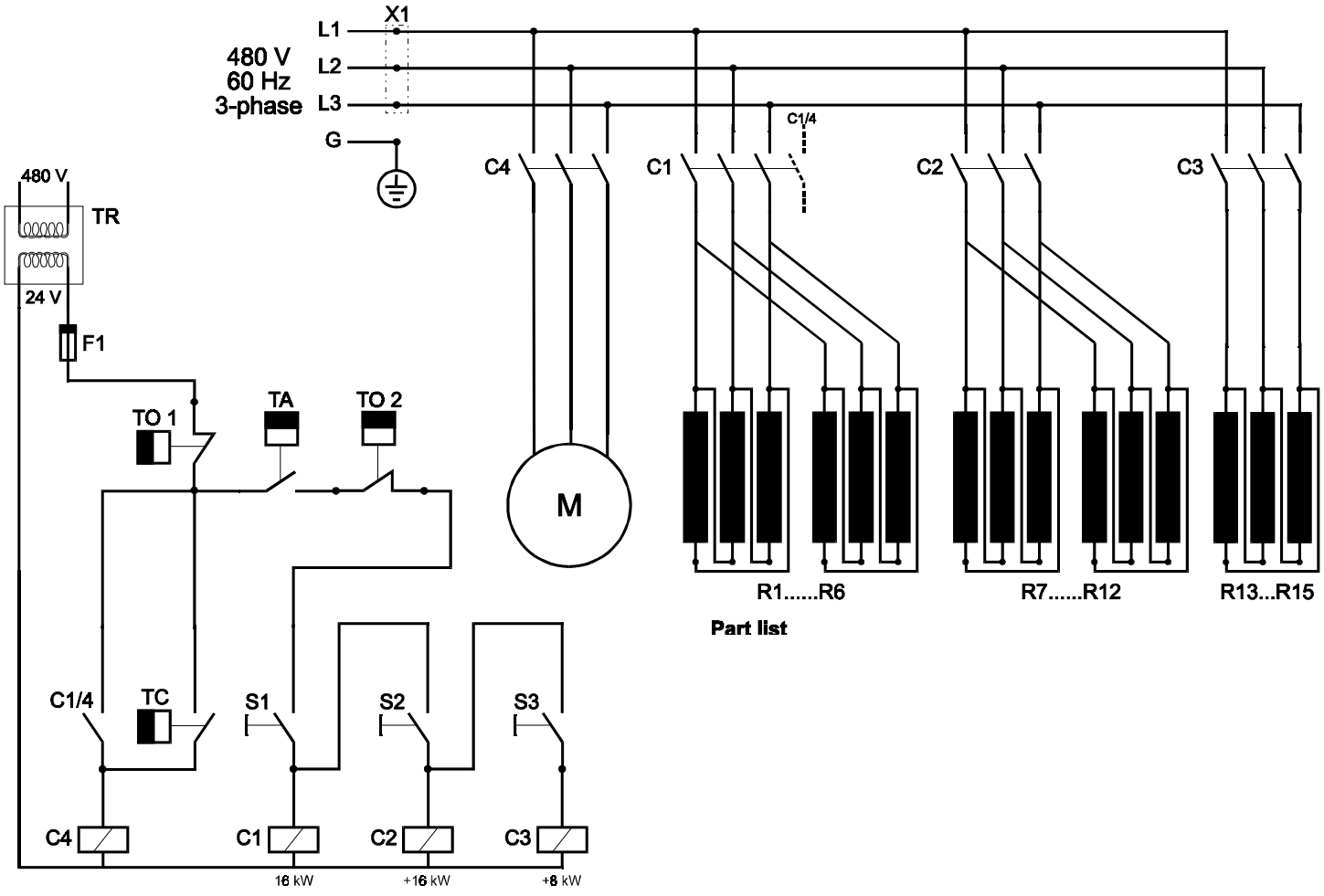
Drawing 2



24	404115	Rear Panel
25	404109	Partition Panel
26	404110	Contactor Mounting Plate
27	404117	Fan Enclosure Tube
28	404118	Fan Mounting Plate
29	83900	Fan Guard Grill
30	36804	Bushing, Medium
31	36805	Bushing, Large
33	22560	Contactor (4/Heater)
34	36905	Strain Reliever
35	26900	Toggle Switch

36	38111 + 38110	Fuse + Fuse Holder
37	36615	Terminal Block
38	28400	Transformer
39	36630	Locking Clamp (2/Heater)
40	37910	Plastic Bracket
41	20210	Ambient Thermostat
42	20212	Thermostat Knob
43	404116	Bolt
45	14300	Fan Motor
46	14310	Power Cord, Fan Motor (per ft)
47	16351	Fan Blade
48	36802	Bushing, Small

WIRING DIAGRAM



C1 ... C3	Contactors	22560
C1/4	Pole 4 of contactor C1 (open)	-
C4	Contactor for fan motor	22560
F1	Fuse	38111
M	Fan motor	14300
R1...R15	Heating element	42410
S1	Toggle switch for 16 kW output	26900
S2	Toggle switch for +16kW output	26900

S3	Toggle switch for +8kW output	26900
TA	Ambient Thermostat	20210
TC	Cooldown thermostat	21100
TO 1	Overheat limit switch (inner)	21200
TO 2	Overheat limit switch (discharge)	20550
TR	Transformer 480V/24 V, AC	28400
X1	Terminal Block	36615

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